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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,261	09/22/2003	Tatsunori Nagura	US-P1732F	7120
21254	7590	03/07/2006	EXAMINER	
MCGINN INTELLECTUAL PROPERTY LAW GROUP, PLLC 8321 OLD COURTHOUSE ROAD SUITE 200 VIENNA, VA 22182-3817			BEHNCKE, CHRISTINE M	
			ART UNIT	PAPER NUMBER
			3661	

DATE MAILED: 03/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/665,261

Applicant(s)

NAGURA ET AL

Examiner

Christine M. Behncke

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 7-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 7-12 is/are rejected.
- 7) ☒ Claim(s) 13 and 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to the Amendment and Remarks filed 22 December 2005, in which claims 1 and 7-14 were presented for examination.

Claim Rejections - 35 USC § 102

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1 and 8-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Takasaki et al., US Patent No. 5,631,829.

3. **(Claim 1)** Takasaki et al. discloses a driving force distribution control device for a vehicle for controlling engaging force of a coupling mechanism so as to change transmission torque (Column 5, lines 37-42, Column 8, line 47-Column 9, line 5), thereby distributing driving force, said device comprising: means for continuously changing a torque limiter which limits engaging force of said coupling mechanism (variable torque transfer, Column 6, lines 13-19), from a limiter value in an ordinary control state according to a driving state (when there is no deviation in rotation condition between front and rear wheels), to a limiter value in a specific control state at the time of mounting nonstandard-diameter tires (a detected wheel speed difference between front and rear wheels, Column 4, lines 35-42, it is well known that tires of different diameters, such as putting on a spare, will have a wheel revolution speed difference); and means for controlling engaging force of said coupling mechanism so as to be kept below the limiter value of the torque limiter in every control state (Column 5, lines 37-65); and

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means for setting amount-of-change of the torque limiter per time increment at transition from the ordinary control state to the specific control state and amount-of-change of the torque limiter per time increment at recovery from the specific control state to the ordinary control state such that the latter may be relatively larger than the former (Figure 6 and Column 20, lines 15-37 and 60-Column 21, line 56).

4. **(Claim 8)** Takasaki et al. discloses a driving force distribution control device for a vehicle for controlling engaging force of a coupling mechanism so as to change transmission torque (Column 5, lines 37-42, Column 8, line 47-Column 9, line 5), thereby distributing driving force, said device comprising: means for continuously changing a torque limiter which limits engaging force of said coupling mechanism (variable torque transfer, Column 6, lines 13-19), from a limiter value in an ordinary control state according to a driving state (when there is no deviation in rotation condition between front and rear wheels), to a limiter value in a specific control state for protecting a driving force transmission system (a rapid increase or decrease in the wheel speed difference between front and rear wheels, Column 4, lines 35-42); and means for controlling engaging force of said coupling mechanism in said specific control state so as to keep below the limiter value in every control state (Column 5, lines 37-65); and means for setting amount-of-change of the torque limiter per time increment at transition from the ordinary control state to the specific control state and amount-of-change of the torque limiter per time increment at recovery from the specific control state to the ordinary control state, such that the former and the latter may be substantially equal at

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the low speed range of the vehicle (Column 13, line 59-Column 14, line 36, Figure 6 and Column 17, lines 53-63).

5. (Claim 9) Takasaki et al. further discloses a transfer control unit which includes said means for continuously changing said torque limiter (Column 6, lines 13-19), said means for controlling said engaging force (Column 5, lines 37-42 and Column 8, line 47-Column 9, line 5), and said means for setting said amount-of change of the torque limiter per time increment (Figure 6, Column 5, lines 56-65).

6. (Claim 10) Takasaki et al. further discloses wherein said transfer control unit receives a plurality of signals and calculates as instruction value for engaging torque based on said plurality of signals (Column 5, lines 37-47).

7. (Claim 11) Takasaki et al. further discloses wherein said plurality of signals comprises at least one of a wheel speed sensor signal, throttle position sensor signal, brake switch signal, hand brake switch signal, lateral acceleration sensor signal and oil temperature sensor signal (Abstract, Column 4, lines 59-62).

8. (Claim 12) Takasaki et al. further discloses wherein in said specific control state, said transfer control unit confirms whether a preset value of said torque limiter exceeds a maximal value of an allowed torque value in said specific control state (Figure 6, Column 20, lines 27-59).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. **Claim 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over Takasaki et al. in view of Katayama et al., US Patent Application No. 2003/0036837.

Takasaki et al. discloses a driving force distribution control device for a vehicle for controlling engaging force of a coupling mechanism so as to change transmission torque (Column 5, lines 37-42, Column 8, line 47-Column 9, line 5), thereby distributing driving force, said device comprising: means for continuously changing a torque limiter which limits engaging force of said coupling mechanism (variable torque transfer, Column 6, lines 13-19), from a limiter value in an ordinary control state according to a driving state (when there is no deviation in rotation condition between front and rear wheels), to a limiter value in a specific control state for protecting a driving force transmission system (a rapid increase or decrease in the wheel speed difference between front and rear wheels, Column 4, lines 35-42); and means for controlling engaging force of said coupling mechanism so as to be kept below the limiter value in every control state (Column 5, lines 37-65); and means for setting amount-of-change of the torque limiter per time increment at transition from the ordinary control state to the specific control state and amount-of-change of the torque limiter per time increment at recovery from the specific control state to the ordinary control state such that the latter may be relatively larger than the former (Figure 6 and Column 20, lines 15-37 and 60-Column 21, line 56). Takasaki et al. does not disclose wherein the specific control state for protecting a driving force transmission system is when there is an abnormal increase in oil temperature. However, Katayama et al. teaches a driving force controlling

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apparatus for continuously changing a torque limiter ([0011]) which limits engaging force of a coupling mechanism from a limiter value in an ordinary state to a limiter value in a specific control state, wherein the specific control state is a control state in which abnormal oil temperature rise of the driving force transmission system is detected ([0090] and [0096]) and is added to the control conditions applied when there is a detected difference between the front and rear wheels. It would have been obvious to one of ordinary skill in the automotive art at the time of the invention to combine the device of Takasaki et al. with the teachings of Katayama et al. because it would have increased the utility of the control design and protection of the vehicle, as Katayama et al. teaches monitoring the temperature of the oil in the friction clutch gives an advantage to the durability in the friction clutch ([0009]).

Allowable Subject Matter

11. **Claims 13 and 14** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within


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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine M. Behncke whose telephone number is (571) 272-8103. The examiner can normally be reached on Monday - Friday 8:30 AM - 5:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas G. Black can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

03-05-06


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